

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of

Redevelopment of Spectrum to  
Encourage Innovation in the  
Use of New Telecommunications  
Technologies

ET Docket No. 92-9  
RM-7981  
RM-8004

To: The Commission

COMMENTS

Pursuant to Section 1.429 of the Commission's Rules,<sup>1</sup> Alcatel Network Systems, Inc. ("ANS"), by its attorney, hereby comments on the following pleadings in the above-captioned proceeding: (1) Petition for Partial Reconsideration, filed by Digital Microwave Corporation ("DMC") on September 13, 1993 ("DMC Petition"); (2) Petition for Partial Reconsideration, filed by Western Tele-Communications, Inc. ("WTCI") on October 21, 1993 ("WTCI Petition"); and (3) Petition for Clarification or Partial Reconsideration, filed by Comsearch on October 22, 1993 ("Comsearch Petition") (collectively, the DMC Petition, the WTCI Petition and the Comsearch Petition shall be referred to as the "Petitions").<sup>2</sup>

The Petitions are filed with respect to the Second Report and Order in the above-captioned proceeding.<sup>3</sup> In this decision, the Commission, in order to clear the 2 GHz band for PCS and other emerging technologies, "reallocates five bands above 3 GHz to the private

<sup>1</sup>47 C.F.R. Section 1.429 (1992).

<sup>2</sup>Public Notice of the Petitions was published November 8, 1993, in the Federal Register. 58 FR 59265 (Nov. 8, 1993).

<sup>3</sup>Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, 8 FCC Rcd 6495 (1993) ("Second Report and Order").

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operational and common carrier fixed microwave services on a co-primary basis and prescribes channelization plans and technical rules to govern their use."<sup>4</sup>

Various technical provisions of the Second Report and Order are addressed in the Petitions. Adoption of the rules for relocating incumbent microwave users to the bands above 3 GHz has not been an easy process. As the prime architect for the initial rules proposed by the Commission and as the facilitator of the industry compromise reflected in the Second Report and Order, ANS fully appreciates the importance of the issues raised in the Petitions and the need to resolve them.

Specifically, following are the issues raised in the Petitions and ANS' position on these issues:

- DMC opposes imposition of a July 15, 1994, deadline for the manufacture and importation of equipment not meeting the new radio efficiency standards.<sup>5</sup> ANS supports retention of the July 1994 deadline because it provides manufacturers more than adequate notice before production must stop, it permits sales of these products to continue for 3.5 years, and it corresponds to the standard industry product life cycle.
- WTCI requests further consideration and emphasis with regard to using adjacent government frequencies for microwave users (1.71-1.85 GHz); reallocation of the 6.4 GHz (6425-6525 GHz) band for general common carrier use; correction of the 4 GHz plan; and clarification of the rules governing automatic transmit power control ("ATPC").<sup>6</sup> ANS supports WTCI's request that government spectrum and the 6.4 GHz band be made available for displaced microwave users. ANS also supports adoption of WTCI's request regarding ATPC. However, ANS does not support WTCI's requested correction of the 4 GHz frequency plan because it would conflict with standard engineering practices for manufacturing the current generation of digital radios. In addition, acceptance of WTCI's position

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<sup>4</sup>Second Report and Order, 8 FCC Rcd at 6496.

<sup>5</sup>DMC Petition at 2-3. Harris Corporation - Farinon Division ("Farinon") supports grant of the DMC Petition. Comments by Harris Corporation - Farinon Division In Support of Petition for Partial Reconsideration Filed By Digital Microwave Corporation, November 3, 1993, at 1.

<sup>6</sup>WTCI Petition at 1-2.

would result in utilization of the 4 GHz band conflicting with utilization of all other microwave bands.

- Comsearch requests clarification regarding transmitter power limits (Section 21.107), directional antennas (Section 21.108), and frequency plans (Section 21.710).<sup>7</sup> ANS supports adoption of all Comsearch's requests.

### DMC PETITION

As part of the rechannelization plan adopted in the Second Report and Order, the Commission prescribes new digital radio efficiency requirements. The Commission decided to implement the efficiency requirements and related transition plan proposed by TIA and the Joint Commenters (which included DMC):<sup>8</sup> (a) a 3 DS-3 utilization rate for 40 MHz channels and for 30 MHz channels in the 6 GHz band, with a 2 DS-3 rate for 30 MHz channels in the 11 GHz band; (b) a 3.5 year transition period, ending June 1, 1997, before requiring use of only equipment capable of meeting these data rate requirements; and (c) a July 15, 1994, deadline for the manufacture or importation of such equipment.<sup>9</sup>

DMC opposes the July 15, 1994, deadline for manufacturing equipment that does not meet the new efficiency standards. It claims that this deadline "not only poses unfair hardship upon DMC, but is not in keeping with the compromises reached."<sup>10</sup> Specifically, DMC states that it has incurred "great expense" designing, developing and introducing a new product line of radios based upon the existing efficiency standards; that the July 1994 deadline was not part of

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<sup>7</sup>Comsearch Petition at 2-5.

<sup>8</sup>The rules adopted in the Second Report and Order, including the provisions for a transition to new digital radio efficiency requirements, are the product of a compromise among ANS, TIA, and three other microwave manufacturers, DMC, Farion, and Telesciences, Inc. (collectively referred to as the "Joint Commenters").

<sup>9</sup>Second Report and Order, 8 FCC Rcd at 6512-14.

<sup>10</sup>DMC Petition at 2.

the industry compromise regarding the 3.5 year period for transition to the new efficiency standards so that it had no opportunity to comment on this "cut-off date;" and that compliance with the deadline would result in significant monetary loss.<sup>11</sup>

Contrary to DMC's claims, there is no evidence that the July 1994 "cut-off" date is unfair or unduly burdens any microwave manufacturer. Under the transition plan established in the Second Report and Order, microwave manufacturers will have one (1) year to continue producing radios not meeting the new efficiency requirements and 3.5 years to sell such radios.<sup>12</sup>

This time frame is quite favorable when compared to the standard industry product life cycle. A one-year notice before product discontinuance doubles the typical six-month notice. During this six-month period, customers usually are given the opportunity to make a "lifetime" buy (*i.e.*, all purchases of that product-line that ever will be needed). After the six-month period ends, most, if not all, of the product has been sold out.<sup>13</sup>

Under these circumstances, the Commission's one-year cut-off period is very lenient. Furthermore, this cut-off only applies to the manufacture of equipment. Sale of radios not meeting new efficiency requirements can continue for almost another three (3) years thereafter.

Given the typical product life cycle of 3-4 years for microwave radios, the Commission's time table is fair and does not burden manufacturers. Moreover, implementation of the July 1994 cut-off date is necessary to ensure that inefficient radios do not proliferate, which is especially important as available spectrum decreases.

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<sup>11</sup>DMC Petition at 2-4.

<sup>12</sup>Second Report and Order, 8 FCC Rcd at 6514.

<sup>13</sup>In special limited circumstances, customers are able to negotiate purchases of discontinued product after the six-month period expires.

In opposing the July 1994 "cut-off" date, DMC hides its head in the sand. It ignores the foregoing standard industry practices. No documentation is provided in the DMC Petition supporting its alleged potential losses due to the manufacturing cut-off deadline. Thus, DMC fails to prove that grant of its petition is in the public interest and, based upon the record of this proceeding and the practices of the microwave industry described herein, it must be denied.

### **WTCI PETITION**

a. Increased spectrum availability

WTCI recognizes the potential spectrum shortage for relocated 2 GHz fixed microwave users. It urges the Commission to encourage such migrants "to consider first the possibilities of using [the] immediately adjacent and compatible government frequencies" in the 1.71-1.85 GHz band and to make the 6425-6525 MHz band, currently limited to the lightly used LTL service, available for general common carrier use.<sup>14</sup>

ANS supports WTCI's request for allocation of additional spectrum for microwave users. However, this reallocation should not be considered a panacea because determining availability in these bands is difficult. To ensure availability of adequate spectrum, not only should the Commission consider the bands WTCI proposes, it also should make reallocation of the 3.6 - 3.7 GHz band a priority.<sup>15</sup>

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<sup>14</sup>WTCI Petition at 3-6.

<sup>15</sup>The 3.6-3.7 GHz band is allocated on a shared basis for government and non-government use. In its May 22, 1992, Petition for Rule Making (RM-8004), which set forth the proposal underlying the rules adopted in the Second Report and Order, ANS advocated reallocating the non-government 3.6-3.7 GHz band for fixed use. This reallocation was intended to provide additional necessary spectrum for dislocated 2 GHz microwave users. Instead of adopting ANS' proposal, the Commission merely is "discussing" the issue with NTIA, although it recognizes that the 3.6-3.7 GHz band "would provide an additional resource" for meeting the 2 GHz microwave users' needs. Second Report and Order, 8 FCC Rcd at 6520. Nothing has changed since ANS made its initial proposal. An acute spectrum shortage still is likely. As WTCI recognizes, this problem must be addressed. More serious consideration of ANS' proposal and WTCI's proposal thus is warranted.

b. 4 GHz Frequency Plan

In the Second Report and Order, the 4 GHz common carrier band was reallocated for private use on a co-primary basis, but the present channelization was not changed.<sup>16</sup> WTCI states that:

[N]ew §§21.701(d) and 94.65(g), though continuing the 20 MHz channelization, set forth a high/low channel configuration rather than the interleaved channel plan which is in use today. Thus, in returning to the present 20 MHz channel spacing, the Commission inadvertently failed to change from the alternating plan proposed in the Further Notice to the existing interleaved channel plan, as intended.<sup>17</sup>

To remedy this problem, WTCI requests that the frequency plans for the 4 GHz band, set forth in Sections 21.701(d) and 94.65(g), should be changed to the current interleaved plan.<sup>18</sup>

ANS strongly opposes WTCI's request regarding the 4 GHz band. While it agrees that certain existing microwave systems could continue using the present interleaved channel plan, there is no record evidence supporting the application of this plan across-the-board. Indeed, to protect against any undue increase in deployment of inefficient radios, the frequency plan adopted in the Second Report and Order must be retained because it is consistent with new system requirements and with all other microwave frequency plans.

c. ATPC

Under the new Section 94.45(g), 3 dB increases in power are permitted without obtaining a modified license.<sup>19</sup> WTCI requests confirmation that the Note for new Section 21.710(b), permitting 3 dB ATPC increases in measuring EIRP, similarly refers only to increases

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<sup>16</sup>Second Report and Order, 8 FCC Rcd at 6499-6501.

<sup>17</sup>WTCI Petition at 7.

<sup>18</sup>WTCI Petition at 8.

<sup>19</sup>Second Report and Order, 8 FCC Rcd 6495, Appendix A.

above licensed power and that common carriers operating under Part 21 "may continue their existing practice of using 10 dB ATPC for the purpose of reaching but not exceeding their authorized power output."<sup>20</sup>

ANS enthusiastically and strongly supports WTCI's request regarding ATPC. WTCI's request is consistent with ANS' original proposals in this proceeding and is completely consistent with standard industry practice.

### **COMSEARCH PETITION**

Comsearch identifies various technical provisions in the Second Report and Order that require clarification or correction. These provisions involve transmitter power, directional antennas, and frequency plans.

a. Transmitter Power (Section 21.107)

First, Comsearch states that a maximum allowable EIRP of +50 dBW is prescribed for the 4 and 11 GHz bands.<sup>21</sup> Comsearch proposes that a +55 dBW EIRP should be used instead "since it is the industry standard."<sup>22</sup>

Second, Comsearch identifies an apparent error regarding the DTS frequencies subject to a +40 dBW EIRP limit. In the Second Report and Order, stations operating in the 10,600 - 10,800 GHz frequency band are required not to have in excess of +40 dBW EIRP.<sup>23</sup> However, Comsearch points out that Part 21 rules show the appropriate band to be 10,600 - 10,680 GHz, that the EIRP limit for the corresponding 10,700 - 11,700 GHz band is +50 dBW, and that under the Second Report and Order, many of the listed frequency pairs would have a

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<sup>20</sup>WTCI Petition at 8-9.

<sup>21</sup>Comsearch Petition at 2.

<sup>22</sup>Comsearch Petition at 2.

<sup>23</sup>Second Report and Order, 8 FCC Rcd 6495, Appendix A.

maximum EIRP of +50 dBW for one frequency but a maximum of +40 dBW for the other frequency.<sup>24</sup> Thus, "[s]ince point-to-point microwave paths are typically designed with a similar EIRP at each end," Comsearch proposes that the +40 dBW restriction be removed.<sup>25</sup>

b. Directional Antennas (Section 21.108)

The Commission, in the Second Report and Order, imposes new category A and B standards for directional antennas, to be effective June 1, 1997.<sup>26</sup> Comsearch is concerned that, "for Category B antennas, there is a lessening of the radiation suppression requirements in 1997 for the upper 6 GHz band and an increase in requirements for the lower 6 GHz band."<sup>27</sup> Thus, Comsearch requests that the Commission "impose the more stringent upper 6 GHz band category B standards across the entire 6 GHz band."<sup>28</sup>

c. Frequencies (Section 21.710)

Comsearch urges that the Commission provide for "flexibility in the administration of frequency plans . . . ."<sup>29</sup> To accommodate this need, Comsearch prefers that the frequency pairings established in the Second Report and Order be listed as "preferred but not mandatory" and that it clarify what kinds of changes to a system will be authorized under the old channel plans.<sup>30</sup>

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<sup>24</sup>Comsearch Petition at 2-3.

<sup>25</sup>Comsearch Petition at 3.

<sup>26</sup>Second Report and Order, 8 FCC Rcd 6495, Appendix A.

<sup>27</sup>Comsearch Petition at 3.

<sup>28</sup>Comsearch Petition at 3. Comsearch also commits to assisting in the formulation of new standards within industry groups. Id.

<sup>29</sup>Comsearch Petition at 4.

<sup>30</sup>Comsearch Petition at 4-5.



ANS supports adoption of all Comsearch's requested changes. Implementation of Comsearch's changes, which are consistent with ANS' proposals in this proceeding, would ensure optimal microwave operation under the new rules.

### CONCLUSION

The rules adopted in the Second Report and Order represent a finely crafted plan which will serve the needs of microwave users and the public benefitting from their services. Rapid introduction of efficient digital radios is ensured.

Changes proposed by WTCI with respect to reallocation of additional spectrum for microwave users and regarding ATPC, and changes proposed by Comsearch regarding transmitter power, directional antennas, and frequency plans, enhance the Second Report and Order, are in the public interest, and thus must be adopted. Unfortunately, DMC's proposed elimination of the July 1994 digital radio manufacturing "cut-off" date and WTCI's proposed elimination of the 4 GHz frequency plan undermine the Second Report and Order and thus must be rejected.

Respectfully submitted,

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November 22, 1993

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